CLAIMS

We claim:

1. A spindle motor comprising:

a rotatable component defining a bearing gap and relatively rotatable with a stationary component;

a base plate affixed to the stationary component;

a stator, affixed to the stationary component, for generating an electromagnetic force that interacts with the rotatable component and drives the rotatable component, wherein the stator and the base plate define a separation there between; and

a bonding substance, formed about at least a portion of the stator, filling at least a portion of the separation and uniting the base plate and the stator.

2. The spindle motor as in claim 1, wherein axial thickness of the base plate is minimized adjacent to the separation.

3. The spindle motor as in claim 1, wherein the bonding substance comprises a thermally conductive epoxy having a high bonding strength.

4. The spindle motor as in claim 3, wherein the thermally conductive epoxy comprises one of TC-2707 and DP-190.

5. The spindle motor as in claim 1, wherein the bonding substance is formed substantially about the stator, and the bonding substance further unites a motor seal affixed to the base plate.

6. The spindle motor as in claim 2, wherein the axial thickness of at least a portion of the base plate is in the range of 0.1 mm. to 0.3 mm.

7. The spindle motor as in claim 1, wherein a portion of the base plate adjacent to the separation defines an opening that is substantially filled with the bonding substance, and the bonding substance forms a contiguous base plate.

8. The spindle motor as in claim 2, wherein a portion of the stator is positioned below an adjacent surface of the base plate, wherein the base plate has a varied axial thickness.

9. A spindle motor for incorporation into a disc drive storage system comprising:

a rotatable component defining a bearing gap and relatively rotatable with a stationary component;

a base plate affixed to the stationary component;

a data storage disc attached to the rotatable component;

a stator, affixed to the stationary component, for generating an electromagnetic force that interacts with the rotatable component and drives the rotatable component, wherein the stator and the base plate define a separation there between; and

a bonding substance, formed about at least a portion of the stator, filling at least a portion of the separation and uniting the base plate and the stator.

10. The spindle motor as in claim 9, wherein axial thickness of the base plate is minimized adjacent to the separation.

11. The spindle motor as in claim 9, wherein the bonding substance comprises a thermally conductive epoxy having a high bonding strength.

12. The spindle motor as in claim 11, wherein the thermally conductive epoxy comprises one of TC-2707 and DP-190.

13. The spindle motor as in claim 9, wherein the bonding substance is formed substantially about the stator, and the bonding substance further unites a motor seal affixed to the base plate.

14. The spindle motor as in claim 10, wherein the axial thickness of at least a portion of the base plate is in the range of 0.1 mm. to 0.3 mm.

15. The spindle motor as in claim 9, wherein a portion of the base plate adjacent to the separation defines an opening that is substantially filled with the bonding substance, and the bonding substance forms a contiguous base plate.

16. The spindle motor as in claim 10, wherein a portion of the stator is positioned below an adjacent surface of the base plate, wherein the base plate has a varied axial thickness.

17. A method comprising:

defining a bearing gap between a rotatable component and a stationary component;

affixing a base plate to the stationary component;

affixing a stator to the stationary component, for generating an electromagnetic force that interacts with the rotatable component and drives the rotatable component;

forming a bonding substance about at least a portion of the stator;

filling with the bonding substance at least a portion of a separation defined between the stator and the base plate; and

uniting the base plate and the stator.

18. The method as in claim 17, further comprising minimizing axial thickness of the base plate adjacent to the separation.

19. The method as in claim 17, further comprising utilizing a thermally conductive epoxy having a high bonding strength for the bonding substance.

20. The method as in claim 18, further comprising positioning a portion of the stator below an adjacent surface of the base plate, wherein the base plate has a varied axial thickness.

21. The method as in claim 18, wherein at least a portion of the base plate is formed having an axial thickness in the range of 0.1 mm. to 0.3 mm.

22. The method as in claim 17, further comprising forming an opening through the portion of the base plate adjacent to the separation, substantially filling the opening with the bonding substance, and forming a contiguous base plate with the bonding substance.